

REMARKS

Claims 1-5, 7-12, 14 and 15 are pending in the present application. Of these, Claims 1-3, 7-12, 14 and 15 are rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 5,579,347 to Bjorn Lindquist, et al. in view of U.S. Patent No. 5,835,538 to Brent Townshend. Additionally, Claims 4 and 5 are rejected under 35 U.S.C. §103(a) as being obvious over the Lindquist '347 patent in view of the Townshend '538 patent and further in view of the admitted prior art. Based on the following remarks, Applicant requests reconsideration of the application and allowance of the claims.

Among other elements, the method of independent Claim 1 includes "determining a DC offset for the signal from the modulation extremes" of the signal. As shown in Figure 6 of the present application, for example, the determination of the modulation extremes may be accomplished by determining the maximum value of a signal and a minimum value of a signal within a window of time.

In contrast to the position taken by the Official Action, it is submitted that the Lindquist '347 patent does not teach or suggest the determination of a DC offset as set forth by independent Claim 1 and suggests that problems associated with DC offset have already been addressed by U.S. Patent No. 5,241,702. Instead, the Lindquist '347 patent focuses upon the problems associated with more complex second order interference. See, for example, column 2, lines 25-63 of the Lindquist '347 patent and, in particular, column 2, lines 47-56 of the Lindquist '347 patent which states:

"the distortion is a DC component if the interfering signal is either only a single carrier f_c or a constant-envelope, frequency or phase-modulated signal. Such a DC offset can be removed ... If the interferer is in some way an amplitude modulated (AM) signal, viz., if V_m is not a constant, the second order product no longer simply introduces a DC offset but distortion in the frequency band of interest."

Additionally, column 8, lines 8-11 of the Lindquist '347 patent states that "it is an object of this invention to reduce the effect of second-order products of AM signals", thereby

addressing issues associated with second order interference instead of any issues associated with a DC offset.

The Official Action specifically refers to column 8, lines 38-62 and column 8, line 64 – column 9, line 9 as disclosing the determination of modulation extremes and the determination of a DC offset from the modulation extremes. In particular, the Official Action notes that the signal *r* represents “the amplitude of the input signal that is the modulation extremes of a received modulated signal”. See page 2 of the Official Action. Additionally, page 3 of the Official Action characterizes *r* to represent the “modulation extreme”.

The Lindquist ‘347 patent actually describes the signal *r* to be the amplitude of the input signal (see, e.g., column 8, lines 39-44 of the Lindquist ‘347 patent) and not simply the modulation extremes as submitted by the Official Action. Indeed, the Lindquist ‘347 patent does not teach or suggest that the modulation extremes are ever determined as recited by independent Claim 1. Instead, the signal *r* is merely utilized as one variable in an equation that defines the samples of the second-order interfering signal.

The Townshend ‘538 patent and the admitted prior art also fail to teach or suggest the determination of the modulation extremes as recited by independent Claim 1 and, indeed, the Townshend ‘538 patent and the admitted prior art are not cited for any such teaching or suggestion. Since each cited reference fails to teach or suggest the determination of the modulation extremes, there is also no combination of the cited references that teaches or suggests the determination of the modulation extremes as set forth by independent Claim 1.

Independent Claim 1 also recites “applying an inverse filter characteristic to a received modulated signal to compensate for the effect of the effective filter characteristic”. As noted by the Official Action, the Lindquist ‘347 patent fails to disclose this recitation of independent Claim 1. However, the Official Action submits that the Townshend ‘538 patent discloses “applying an inverse filter characteristic (Fig. 10 element 268) to a received modulated signal to compensate for the effect of the effective filter characteristic for adjusting the parameters of decoder 156 (column 13 lines 16-22) so that the recovered signal quality is improved.”

While the Townshend ‘538 patent does disclose an inverse filter, the inverse filter is designed to invert a transformation performed by line interface 140. See column 12, lines 59-62

of the Townshend '538 patent. Accordingly, the Townshend '538 patent also fails to teach or suggest the application of "an inverse filter characteristic ... to compensate for the effect of the effective filter characteristic" of a direct conversion radio receiver, as set forth by independent Claim 1. Since the Lindquist '347 patent and the Townshend '538 patent, as well as the admitted prior art, fail to teach or suggest the application of an inverse filter characteristic to compensate for the effect of the effective filter characteristic of a direct conversion radio receiver, there is also no combination of the cited references that teaches or suggests this additional recitation of independent Claim 1.

For each of the foregoing reasons, it is therefore submitted that the rejection of independent Claim 1 is overcome. Since Claims 2-5 and 7-11 depend from and include the recitations of independent Claim 1, it is similarly submitted that the rejection of these dependent claims is also overcome for at least the reasons set forth above in conjunction with independent Claim 1. The remaining claims, that is, independent Claims 12, 14 and 15, contain similar recitations to those of independent Claim 1 with respect to the features discussed above. Thus, independent Claims 12, 14 and 15 are patentable for at least those reasons given above for independent Claim 1 and the rejections thereof are similarly submitted to be overcome.

Conclusion

In view of the foregoing remarks, Applicant respectfully submits that all of the claims of the present application are in condition for allowance. It is respectfully requested that a Notice of Allowance be issued in due course. Examiner Wang is encouraged to contact Applicant's undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

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It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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